

## DEAD TIMESTAMP IDENTIFICATION AND ELIMINATION

## ABSTRACT OF THE DISCLOSURE

- 5        The performance of an application is improved by identifying and  
eliminating items with dead time-stamps and eliminating work on items with  
irrelevant time-stamps. An algorithm executing in each node of a task graph  
computes and propagates guarantees which are used to eliminate both items with  
dead time-stamps and irrelevant computation on dead time-stamps. A continuous  
10      garbage collector eliminates items with dead time-stamps while the node continues  
to process received items. Unnecessary computations are reduced by automatically  
discerning the interest set of downstream modules for time-stamps and feeding the  
interest set back to upstream modules.